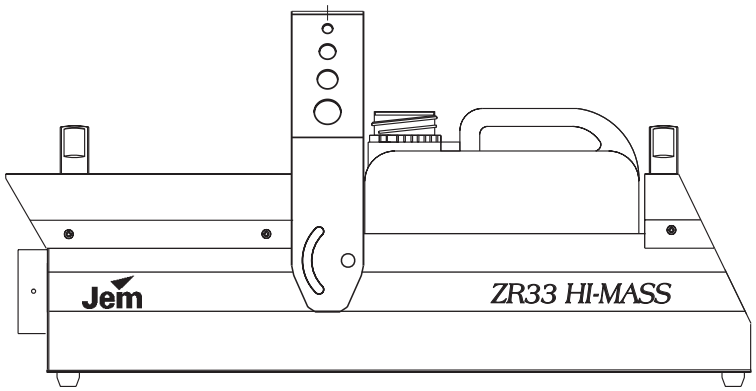
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USER GUIDE

VERSION 1.5

Jem



ZR33 ***HI-MASS***

MARTIN MANUFACTURING (UK) PLC

Fluids suitable for this machine:



Note:
The JEM warranty will be void if any fluid other then JEM approved fluid is used. If other fluids are used there could be serious damage to the machine and the fluid may not of been tested for use in public areas.

ZR33-DMX USER GUIDE

Notes:

MARTIN MANUFACTURING (UK) PLC

Trouble Shooting

SYMPTOM	CAUSE	CURE
The mains switch does not light when I switch on.	Main fuse blown. No power connected.	Check main fuse. Check power is connected.
The power LED does not light on the remote control.	Fuse on main PCB blown. Remote control not connected.	Check fuse on Main PCB. Check connection of remote control.
The ready LED does not light. even after 15 minutes.	Stand-by button is not on. Sensor fault	Check stand-by button Contact JEM or your Distributor.
No smoke output when fog button is pressed (ready LED is lit).	The output knob is not set correctly No fluid in fluid container.	Turn output knob fully clockwise. Replace fluid container.
The effect is not lasting long enough.	Fluid is the wrong grade.	Choose a longer lasting fluid (SP)

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- Safety
- Machine Layout
- Getting Started
- Using The Remote Control
- Using DMX 512
- Using The Slave Socket
- The ZR33 Flying Kit
- The ZR33 Ducting Kit
- Trouble Shooting
- How To Contact Us

Note:
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Introduction

The ZR33 features the "HI-MASS" vaporizing system. This consists of a twin coil system, each supplied with fluid from a high pressure oscillating piston pump. This guarantees the maximum output from this size of vaporizing system. Most smoke machines have one vaporizing coil and one pump, the ZR33 has two of each. JEM has also used the best possible overheat protection using our "DTP" safety device. This was first used on the JEM TECHNO-FOG with great success and we have incorporated it on the ZR33. There is also a 9.5 Litre (2.5 US gallons) fluid container to minimize the need to keep refilling.

To allow easy integration with a lighting control system, the ZR33 comes with DMX 512 as standard. This uses a single Channel and controls the output from a light haze to maximum output. The ***ZR33*** *also includes a well featured controller, enabling the user to operate the machine under manual, control or via the timer settings. The timer has a new feature called x8 mode that allows the timer values to be multiplied by 8.*

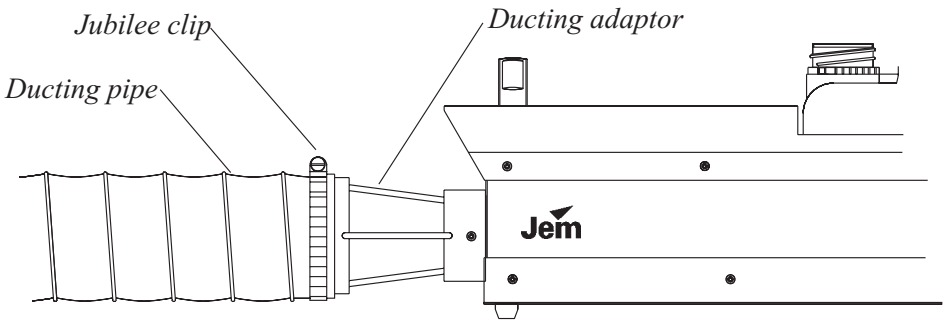
The ZR33 can be installed using the flying kit supplied with the machine. This consists of a heavy duty flying bracket, and an optional drip pad available as an accessory. Once installed, DMX 512 or the remote can be used to control the output.

A ducting kit is available for applications where the effect is needed in an area away from the ZR33.

FEATURES

HI-MASS Vaporizing System	*Two High Power Piston Pumps*
DMX 512 As Standard	*Multifunction Remote Controller*
"DTP" Safety System	*Pump Ramping For Continuous Output*
9.5 Litre Fluid Capacity	*SMD Electronics*
Low Noise Soft Start Pumping	*Heavy Duty Construction*
Integrated Flying Bracket	

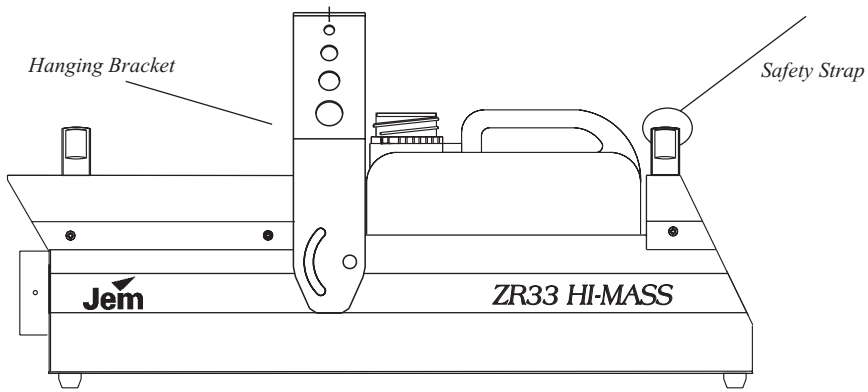
ZR33 Ducting Kit



The JEM ZR33 ducting kit enables the user to duct the smoke from the machine to an area where the effect is required. This is done by using the JEM ducting adaptor and a length of 100 mm (4") ducting pipe. The length can be anything from a couple of metres up to 20 metres or further. There are one or two things to beware of when using smoke machines with ducting, firstly if there are bends to redirect the smoke they could cause condensation to form also an air space must be provided between the output of the machine and the ducting adaptor.

NOTE! Always use the recommended ducting adaptor and ducting pipe, others may cause damage to the machine.

ZR33 Flying Kit



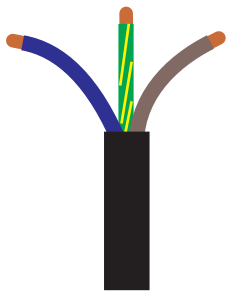
The ZR33 flying kit enables the machine to be fixed to rigging and ceilings for use where the ZR33 is best situated in a flying position. The kit is supplied as standard with the option of a drip pad for catching unwanted drips that can occur when smoke machines are angled down.

NOTE! Always follow instructions when installing smoke machines. A safety strap must be fixed from the rigging to the handle to ensure maximum safety..

Safety

- *Always use a JEM approved fluid, other fluids could be dangerous and could cause damage to the machine.*
- *Always check the voltage is correct for use with the machine, the voltage setting is printed on the serial label.*
- *Always read the user guide before operating the machine, smoke machines need to be operated carefully to avoid risk.*
- *Never touch the nozzle at the front of the machine, the nozzle can stay hot for up to 10 hours.*
- *Do not remove the cover or attempt to repair a faulty machine, an authorized JEM dealer should be contacted in the event of a faulty machine.*
- *Always use smoke machines in well ventilated areas, over use could affect sufferers of asthma or other chest conditions.*
- *Do not use the machine if there is a faulty mains lead or plug this could be dangerous.*
- *Never point the output directly at peoples heads, this is a high powered smoke machine.*
- *Always use approved accessories with this machine.*
- *Do not spill fluid over the machine, if fluid is spilt clean with clean water and contact an approved JEM dealer for advice.*

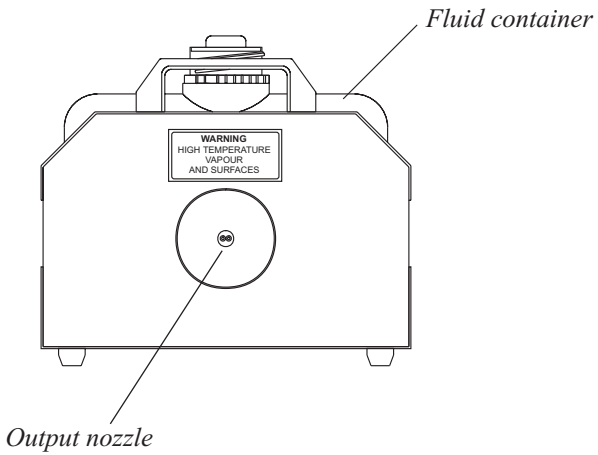
Mains Lead Wiring Instructions

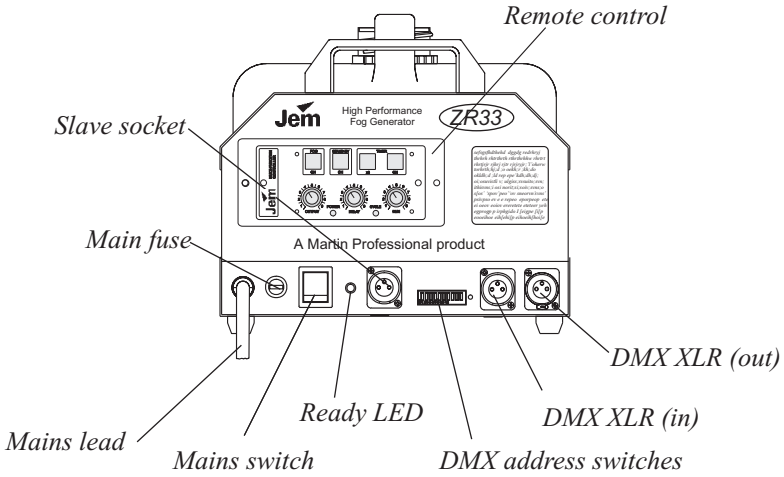


Brown = Live
Blue = Neutral
Green/Yelllow = Earth

Note! This Appliance must be earthed

Machine Layout



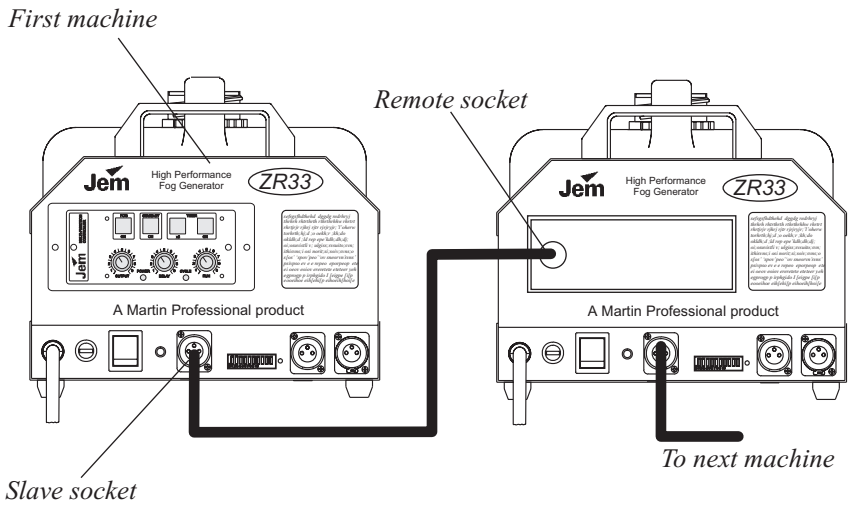


Using The Slave Socket

The ZR33 has the ability to connect machines together using a XLR lead and then operating all of the machines with one controller. This is ideal when there is a need for lots of smoke and there is no DMX to operate the machines. Simply remove the controllers from all but one of the machines and then connect an XLR lead (3 pin) from the slave socket of the first machine (the one with the controller) to the next machine's remote socket, and then from that machine's slave to the next machine's remote socket. This can be done from two up to ten machines maximum. All of the machines will operate with the same output and timer settings as the first machine.

Wiring of XLR

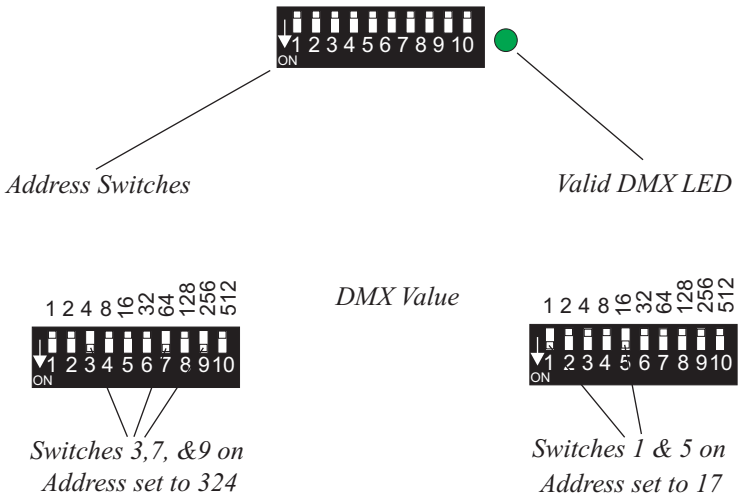
Pin 1 - GND
Pin 2 - NA
Pin 3 - 0 -10V signal



Using DMX 512

*Within the lighting industry, the DMX communication protocol is widely used for remote control of lighting and other equipment. The ZR33 is fitted with a DMX 512 compliant interface as standard, giving the user the possibility of controlling the smoke and light from a single source. The **ZR33** uses a single channel to fire and control the output level; the interface can be addressed from channel 1 to channel 512. The address is set using the 10 way dip switch at the rear of the machine. To address the channel, convert the channel number to binary and set this number on the switches (on is down). There are some samples of different channel settings below.*

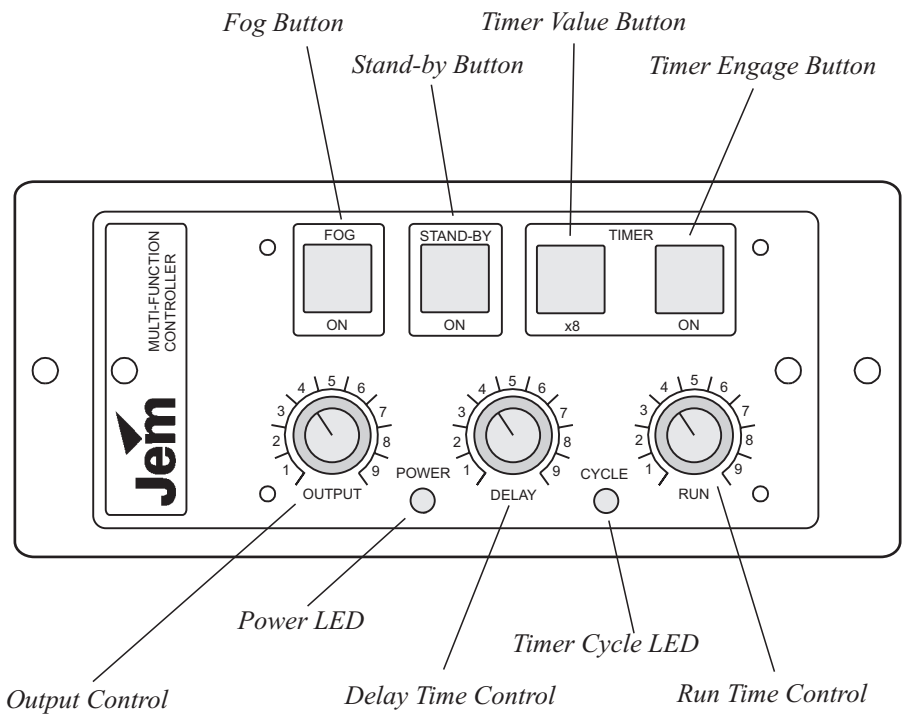
The ZR33 is fitted with two XLR sockets, one is for DMX IN & one is for DMX OUT, enabling the ZR33 to be used in a chain. When there is valid DMX, i.e. the XLR is connected and the desk is powered, the small green LED will light. However, if there is no address set, the LED will not light and DMX will be disabled. If an address is set and DMX is present the machine will automatically start to heat up and after 10 - 12 minutes you will be able to operate the machine using DMX. Increasing the DMX level will increase the smoke output level.



Getting Started

- *Once you have selected the best position for the ZR33 you can begin to use the machine. Check that the mains power supply matches the voltage and frequency on the serial number label. If not, contact your JEM dealer for advice.*
 Now set the mains switch, at the rear of the machine, to the 'ON' position and press the grey "stand-by" button.
 Allow around 10 -12 minutes for the machine to reach operating temperature While it heats up you should check the level in the fluid container, the container can hold up to 9.5 litres of fluid.
- *NOTE! Do not allow the ZR33 to run out of fluid. Serious damage may occur if the machine is operated when no fluid is connected.*
- *When the machine has reached working temperature the green "ready" LED will light on the rear of the machine and the machine can now be operated. Check the "output" knob is turned fully clockwise (maximum) then press and hold the red "fog" button. The fluid pumps will start operating; if the machine has a new container of fluid it will take a few seconds for the pumps to prime.*
 When the pump has primed smoke will be visible. The output can now be set to the desired level by turning the "output" knob. The timer may be activated or you can simply use the "fog" button when smoke is required, Alternately you may wish to use DMX to operate the ZR33.
 For further information on using the controller and DMX see the relevant pages in this user guide.
- *When you have finished using the machine you should use the "stand-by" button to turn off the heaters and then turn the mains switch off. If any problems occur when operating the ZR33 please refer to the trouble shooting guide..*

Using The Remote Control



The ZR33 comes with a comprehensive controller that allows the user to manually fire the machine, or set a well featured timer to operate the machine automatically. When the "ready" LED is lit at the rear of the machine the remote becomes functional and the "fog" button will operate the machine when pressed. Sometimes a pre-determined amount of smoke is needed and the ZR33 remote has a timer that will operate over a wide range or varying times. The x8 timer value gives even greater flexibility when a longer delay and run time are needed.

Functions

FOG BUTTON: Will when the machine has reached operating temperature fire the machine when pressed and held.
STAND-BY BUTTON: This turns the machines electronics on and off.
TIMER VALUE BUTTON: When the timer is being used, the timer values can be adjusted by a factor of 8, i.e. a 5 second minimum run time becomes 40 seconds & a 10 second delay time becomes 1 minute 20 seconds.
TIMER ENGAGE: This will engage the timer to fire the machine according to the present settings.
OUTPUT CONTROL: Turning this knob clockwise will increase the output of the machine, if turned fully anti-clockwise there will be no output.
DELAY TIME CONTROL: This will adjust the amount of time the machine waits between operating when the timer is engaged.
RUN TIME CONTROL: This will adjust the time the machine will operate for when the timer is engaged.
POWER LED: This LED will light when the machine is switched on
CYCLE LED: This LED will light when the timer is engaged and the machine is operating.

Timer Values

Run Time: X1 mode

Minimum = 2 seconds
Maximum = 18 seconds

Run Time: X8 mode

Minimum = 16 seconds
Maximum = 2 minutes 24 seconds

Delay Time: X1 mode

Minimum = 2 seconds
Maximum = 18 seconds

Delay Time: X8 mode

Minimum = 16 seconds
Maximum = 2 minutes 24 seconds

An extension lead is available from JEM for using the controller out of the machine.